# SUMMARY BIOLOGICAL OPINION FOR REROUTING OF EXISTING NAVOPAÇHE POWER POWERLINE ON UPPER BLUE RIVER

Date of the opinion: March 24, 1997

Action agencies: U.S. Forest Service, Apache-Sitgreaves National Forests (USFS)

Project: Rerouting of an existing powerline belonging to Navoapache Power to bypass a section that is collapsing. The powerline is across and along the upper Blue River.

Location: Greenlee County, Arizona

Listed species affected: Loach minnow (<u>Tiaroga cobitis</u>) - threatened, with critical habitat <sup>1</sup>
Bald eagle (<u>Haliaeetus leucocephalus</u>) - threatened

Biological opinion: Nonjeopardy

Incidental take statement:

Anticipated take: Loach minnow - cannot be quantified. Indexed to fish community and project parameters. Anticipated take is exceeded if: 1) more than 20 dead/dying fish of any species occur at or within 500 yards downstream of project area; or 2) any toxic materials spill occurs. Bald eagle - none.

Reasonable and prudent measures: Four objectives for minimizing and documenting incidental take. Implementation of these measures through the terms and conditions is mandatory.

Terms and conditions: Terms and conditions implement reasonable and prudent measures and are mandatory requirements. Terms and conditions include minimization of activities, pollution control, minimization of riparian loss, monitoring for fish loss, and reporting.

Conservation recommendations: Implementation of conservation recommendations is discretionary. None

<sup>&</sup>lt;sup>1</sup>A 1996 10th Circuit Court decision set aside and enjoined from enforcement critical habitat for loach minnow pending compliance with NEPA.



# United States Department of the Interior Fish and Wildlife Service

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In Reply Refer To:

AESO/SE 2-21-97-F-136

March 24, 1997

John Bedell U.S. Forest Service P.O. Box 640 Springerville, Arizona 85938

Dear Mr. Bedell:

This biological opinion responds to your request of February 13, 1997, for formal consultation pursuant to section 7 of the Endangered Species Act (Act) of 1973, as amended, on proposed rerouting of an existing Navopache Power powerline on the Blue River in Greenlee County, Arizona. The species of concern are loach minnow (<u>Tiaroga cobitis</u>), razorback sucker (<u>Xyrauchen texanus</u>), and bald eagle (<u>Haliaeetus leucocephalus</u>). The 135-day consultation period began on February 14, 1997, the date your request was received in our office.

The following biological opinion is based on information provided in the February 13, 1997, Biological Assessment and Evaluation (BA), data in our files, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern or other subjects considered in this opinion. A complete administrative record of this consultation is on file in the Arizona Ecological Services Office in Phoenix.

It is the Service's biological opinion that implementation of the proposed rerouting of the Navopache Power powerline is not likely to jeopardize the continued existence of the loach minnow, razorback sucker, or bald eagle or to destroy or adversely modify the presently-enjoined critical habitat of loach minnow.

#### CONSULTATION HISTORY

Informal consultation began on January 29, 1997, with a telephone call from the Forest Service informing the Service that a problem with the telephone line existed and that there was a need for action to replace or reroute the line within a short time-frame. The biologists discussed the issues and it was agreed that the Service would try to deliver a biological opinion within 2 weeks after receipt of the BA from the Forest Service. The BA was received on February 14, 1997.

Thompson, 1978; Propst et al., 1988; Propst et al., 1985; Marsh et al., 1990; Bagley et al., 1995).

Loach minnow is a bottom-dwelling inhabitant of shallow, swift water over gravel, cobble, and rubble substrates (Rinne, 1989; Propst and Bestgen, 1991). Loach minnow uses the spaces between, and in the lee of, larger substrate for resting and spawning (Propst et al., 1988; Rinne, 1989). It is rare or absent from habitats where fine sediments fill the interstitial spaces (Propst and Bestgen, 1991). Some studies have indicated that the presence of filamentous algae may be an important component of loach minnow habitat (Barber and Minckley, 1966). The life span of loach minnow is about 2 years (Britt, 1982; Propst and Bestgen, 1991). Loach minnow feeds exclusively on aquatic insects (Schreiber, 1978; Abarca, 1987). Spawning occurs in March through May (Britt, 1982; Propst et al., 1988); however, recent reports have confirmed that under certain circumstances loach minnow also spawn in the autumn (Vives and Minckley, 1990). The eggs of loach minnow are attached to the underside of a rock that forms the roof of a small cavity in the substrate on the downstream side. Limited data indicate that the male loach minnow may guard the nest during incubation (Propst et al., 1988; Vives and Minckley, 1990).

In the Blue River, loach minnow is presently found in suitable habitat throughout the area of perennial flow (J.M. Montgomery Consulting Engineers, 1985; Hendrickson, 1987; Papoulias et al., 1989; Bagley et al. 1995).

Recent biochemical genetic work on loach minnow indicate there are substantial differences in genetic makeup between remnant loach minnow populations. Remnant populations occupy isolated fragments of the Gila basin and are isolated from each other. Based upon her work, Tibbets (1992) recommended that the genetically distinctive units of loach minnow should be managed as separate units to preserve the existing genetic variation.

The status of loach minnow is declining rangewide. Although it is currently listed as threatened, the Service has found it warrants uplisting to endangered status. A reclassification proposal is pending, however work on it is precluded due to work on other higher priority listing actions (USFWS, 1994b). The need for reclassification is not due to data on declines in the species itself, but is based upon increases in serious threats to a large portion of its habitat.

#### Species Description and Status - Razorback Sucker

The razorback sucker was listed as endangered on October 23, 1991 (USFWS, 1991). Critical habitat was designated for razorback sucker on March 21, 1994 (USFWS, 1994c). Within the Gila River basin, critical habitat includes portions of the Gila and Salt Rivers as well as the Verde River from just below Perkinsville downstream to Horseshoe Dam. Critical habitat includes the river and its 100-year floodplain. Razorback sucker grows to over two feet in length and has a distinctive abrupt, sharp-edged dorsal ridge behind the head (Minckley, 1973). The species was once common throughout the Colorado River basin, but is now rare, occurring sporadically in about 750 miles of the upper basin (Bestgen, 1990). In the lower basin a

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## Species Description and Status - Bald Eagle

The bald eagle was listed as an endangered species on March 11, 1967 (USFWS, 1976). It was reclassified to threatened status on July 12, 1995 (USFWS, 1995). No critical habitat has been designated for this species. The bald eagle is found throughout North America, nesting in trees or on cliffs near seacoasts, lakes and rivers. The primary food is fish, taken live or as carrion. Chemical contamination, chiefly by organochlorine pesticides, caused severe population declines and local extirpation throughout the species' range, through reproductive failure and direct toxicity. The banning of use of organochlorine pesticides along with habitat protection and restoration has resulted in overall improvement of the status of the bald eagle.

Although not considered a separate subspecies, bald eagles in the southwestern United States are considered a distinct population for the purposes of recovery efforts and section 7 consultation under the Act (USFWS, 1982; 1986b). Southwestern bald eagles constitute a distinct population, distinguishable by morphology, breeding chronology and geographic isolation. Southwestern bald eagles are also distinct behaviorally, frequently nesting on cliffs, a phenomenon rare or absent outside this geographic region. The southwestern bald eagle nests early, with eggs laid in January or February. This is believed to be a behavioral adaptation to avoid the extreme desert heat of midsummer. The young eagles remain in the vicinity of the nest until June (Hunt et al., 1992). This population also supplements its piscine diet with mammals, birds, and reptiles, taken either live or as carrion (Hunt et al., 1992). Approximately 38 occupied bald eagle breeding areas (BAs), each supporting one nesting pair, have been identified in the southwestern population in recent years. The majority of the population inhabits Arizona, distributed along the Salt, Verde, Gila and Bill Williams Rivers and several major tributaries. Although the status of the southwestern population is on an upward trend, the population remains small and under threat from a wide variety of factors.

No bald eagle nests are known to exist on the Blue River. The nearest nest site is at Luna Lake, approximately 20 air miles from the proposed project. However, wintering bald eagles frequently use the area and surveys are conducted each winter by Forest Service personnel in this area. Habitat requirements for wintering bald eagles are less critical compared to nesting habitat requirements. Primary habitat needs for wintering bald eagles include perching sites and food. Large trees, either living or dead, are the most common perch sites, preferably near foraging areas (Grubb and Kennedy, 1982). Food is primarily fish, but may also include birds and small mammals. In northern Arizona, wintering bald eagles primarily forage on waterfowl and carrion (Hunt et al., 1992).

#### Environmental Baseline

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions which are contemporaneous with the consultation process. The environmental

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a number of small diversion structures and irrigation canals. A private fish hatchery is operated along the upper Blue River and a substantial proportion of the base flow is diverted into the hatchery, sometimes reportedly drying the river for a short ways. Subdividing of ranch lands and construction of residences or summer homes has occurred, but at a fairly low level. The presence, maintenance, and repair of a road servicing the private lands along the upper Blue River is a major source of bank damage and erosion. Numerous low-water ford crossings exist in the upper Blue River contributing to localized destabilization. In the lower Blue, unauthorized off-road-vehicle use in the river bottom continues to occur. Livestock grazing in the valley bottom continues on private lands in the upper Blue. On the Clifton Ranger District, the river corridor is excluded from authorized livestock grazing. Allotments on Forest Service lands in the Alpine Ranger District have included grazing on the river. A recent decision to remove that grazing is currently under administrative appeal.

The Blue River, like all streams remaining in the Gila River basin, has also been subject to introduction of a number of nonnative fish and other aquatic species. Although the nonnative species present in the Blue River is much lower than in most Gila basin streams, those nonnatives present have adversely affected the native fish community through competition and predation (Courtenay and Stauffer, 1984; Marsh et al., 1989; Marsh and Brooks, 1989; Blinn and Runck, 1990; Propst et al., 1992; Carmichael et al., 1993; Douglas et al., 1994). Nonnative species reported in the Blue River during recent survey efforts include rainbow trout (Oncorhynchus mykiss) and red shiner (Cyprinella lutrensis) (Bagley et al., 1995). Earlier surveys also found brown trout (Salmo trutta) and channel catfish (Ictalurus punctatus) (Anderson and Turner, 1977; J.M. Montgomery Consulting Engineers, 1985; Sheldon and Hendrickson, 1988). Local stories say that channel catfish are sometimes quite abundant in the lower Blue River (Stefferud, 1995; B. Csargo, Apache-Sitgreaves National Forests, pers. com., 1996). The scarcity of large pools, the paucity of habitat structure, and the flashiness of flooding in the Blue River may make nonnatives such as the channel catfish susceptible to death or removal downstream during large flood events. Differential effects of flooding on native and nonnative fishes in Southwestern streams have been observed (Rinne, 1975; Meffe, 1983; Minckley and Meffe, 1987; Pearson et al., 1992).

For many years, the fish fauna of the Blue River was poorly known. Surveys were few and tended to concentrate on the tributary streams (Chamberlain, 1904; Silvey and Thompson, 1978; J.M. Montgomery Consulting Engineers, 1985; Papoulias et al., 1989; Sheldon and Hendrickson, 1988). Recently, surveys of the Blue River system were conducted by Arizona State University during 1995 and 1996 under funding from the Apache-Sitgreaves National Forests (Bagley et al., 1995). These surveys, in conjunction with some survey data from Arizona Game and Fish Department, indicate that loach minnow is still distributed throughout the length of the Blue River in suitable habitat. Those surveys found no razorback sucker. In addition to loach minnow and razorback sucker, four other native fishes remain, the speckled dace (Rhinichthys osculus), longfin dace (Agosia chrysogaster), desert sucker (Catostomus [Pantosteus] clarki), and Sonora sucker (Catostomus insignis).

The proposed project is well planned to remove or restrict adverse impacts to the three listed species. Avoidance of machinery in the river channel would prevent mortality of fish through crushing or harassment and the provision that no roadbed or bank material would be placed into the river or floodplain would help minimize sediment input into the river. There are small adverse impacts related to the bank disturbance and the possible removal of riparian vegetation. Although both of these activities have the potential to create erosion and sediment and destabilize the streambank, the effect would be very localized and short-term. Adverse effects of stream sedimentation to fish and fish habitat have been extensively documented (Murphy et al., 1981; Wood et al., 1990; Newcombe and MacDonald, 1991; Barrett, 1992; Megahan et al., 1992, Waters, 1995). Because of their benthic habit, loach minnow and their eggs are particularly vulnerable to substrate sedimentation. Although excess sediment can adversely affect razorback sucker by filling pools and reducing areas of spawning habitat, the amount of sediment involved in the proposed action is not sufficient to cause those effects.

If the cottonwood is removed, the proposal calls for dropping it into the floodplain. We support that concept. Although there is some potential for bank erosion due to the presence of the downed tree, the Blue River has a lack of large downed woody material within the river channel. The important role of large woody material in stream ecosystems has been well documented (Benke et al., 1985; Minckley and Rinne, 1985; DeBano and Schmidt, 1989; Wilzback, 1989).

For bald eagle the removal of the large cottonwood is an adverse effect in that it removes potential roosting habitat for the bird. The proposal calls for trimming the tree if possible and removing it only if trimming would not be sufficient. We support that tiered approach.

During repair work, the potential exists for introduction of toxic substances, such as petroleum products, into the stream. This potential is expected to be minimal for the proposed project.

#### Cumulative Effects

Cumulative effects are those effects of future non-Federal (State, local government, or private) activities on endangered or threatened species or critical habitat that are reasonably certain to occur during the course of the Federal activity subject to consultation. Future Federal actions are subject to the consultation requirements established in section 7 and, therefore, are not considered cumulative in the proposed action.

Most of the land within the Blue River watershed is under the jurisdiction of the U.S. Forest Service and activities affecting the loach minnow, such as grazing and timber harvest, would be Federal actions which are subject to section 7 consultation. Recreation in the area is light to moderate and in general has minor impact on the river in the project area. The primary cumulative effects derive from the private lands in the valley bottom on the upper Blue River. Livestock grazing, cropping and residential development on the floodplain terraces remove water from the river and add to the instability of the river system. An aquaculture operation feeds predatory nonnative fish species into the Blue River and diverts water from the river. Forest Road 281 is located along the river from the confluence of Campbell and Dry Blue Creeks

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and habitat. Anticipated take for the proposed action will be considered to have been exceeded if at any time during project activities, more than 20 dead fish of any species are found in the area of the project or within 500 yards downstream, or if any spill of toxic materials occurs in the Blue River or its floodplain during project implementation.

If, during the course of the action, the amount or extent of the incidental take limit is exceeded, the Forest Service must reinitiate consultation with the Service immediately to avoid violation of section 9. Operations must be stopped in the interim period between the initiation and completion of the new consultation if it is determined that the impact of the additional taking will cause an irreversible and adverse impact on the species. The Forest Service should provide an explanation of the causes of the taking.

## Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the incidental taking authorized by this biological opinion. Many of these reasonable and prudent measures and their implementing terms and conditions are already an implicit part of the proposed project and their inclusion in this incidental take statement is only an affirmation of their importance in minimizing take. Where the proposed project already adequately fulfills the following reasonable and prudent measures and terms and conditions, this incidental take statement does not imply any requirement for additional measures.

- 1. Conduct all proposed actions in a manner which will minimize direct mortality of loach minnow.
- 2. Conduct all proposed actions in a manner which will minimize loss and alteration of loach minnow habitat.
- 3. Monitor the fish community and habitat to document levels of incidental take.
- 4. Maintain complete and accurate records of actions which may result in take of loach minnow and their habitat.

# Terms and Conditions for Implementation

In order to be exempt from the prohibitions of section 9 of the Act, the Forest Service is responsible for compliance with the following terms and conditions, which implement the reasonable and prudent measures described above.

- 1. The following terms and conditions will implement reasonable and prudent measure
  - 1.1 All reasonable efforts shall be made to minimize activities within the wetted channel of the Blue River.

We appreciate the ongoing efforts of the Alpine Ranger District in conserving the native ecosystem of the Blue River. If we can be of further assistance, please contact Sally Stefferud or Bruce Palmer.

Sincerely,

Sam F. Spiller Field Supervisor

cc:

Regional Director, Fish and Wildlife Service, Albuquerque, NM (GM:AZ)

Director, Fish and Wildlife Service, Washington, D.C. (DES)

Regional Solicitor, Dept. of the Interior, Albuquerque, NM

(Attn: Beverly Ohline)

Regional Supervisor, Arizona Game and Fish Department, Pinetop, AZ

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